



## ABSTRACT

This invention provides methods and apparatus for producing holograms by creating arrangement of laser-induced damages inside transparent materials. A method for transformation of an interference pattern into arrangement of points so that laser-induced damages created at these points are able to reconstruct high quality holographic images is disclosed. A method and apparatus for creation of small laser-induced damages needed for reproduction of holograms by transforming wavelength of laser radiation generating breakdowns at the predetermined points of transparent materials are described.